

FERMILAB PILOT NECESSARY AND SUFFICIENT IDENTIFICATION TEAM DOCUMENT

**Submitted to the Convened Group by
The Fermilab N&S Identification Team**

July 12, 1995

Introduction - The N&S Process

This summary report documents the results of the work of the Identification Team for the pilot "Necessary and Sufficient Closure Process" for ES&H Standards at Fermilab, which was carried out in February-June, 1995. (The "Necessary and Sufficient Closure Process" was developed by the DOE's Department Standards Committee, to implement Criterion 6.3 of the Department's Standards Program, which defines the process whereby DOE line management and Contractor management develop, approve, and maintain a necessary and sufficient set of standards for Department and Contractor operations.)

The implementation of the N&S pilot process at Fermilab was initiated by a February 23, 1995 memorandum from Wilmot Hess (ER-20) to Andrew Mravca (Manager, BAO). This activity was subsequently authorized by Martha Krebs¹ (ER-1) and Tara O'Toole² (EH-1). Fermilab management has made every effort to implement its pilot in strict accordance with the "Necessary and Sufficient Closure Process" protocols.

The Convened Group for the Fermilab Pilot N&S Process met several times to establish the protocols for the Pilot and create the Identification Team, and fulfill all the other requirements for the Convened Group as defined in Process Elements 1, 2, and 3. Fermilab management appointed Larry Coulson to be the Process Leader. In consultation with the Convened Group, the Process Leader subsequently assembled the Identification Team, and developed a Charter for and Charge to the Identification Team.

The Process Leader also solicited information necessary to define the work to which the standards will apply. A bottoms-up, worker safety oriented "Hazard Identification Process" was employed by Fermilab to develop an initial list of hazard issues at the

¹ Letter from Martha Krebs to John Peoples, Fermilab Director, 3/21/95.

² Letter from Tara O'Toole to Frederick Bernthal, URA President, 4/21/95.

Laboratory. This list of hazard issues was the starting point for determining the set of N&S ES&H Standards for Fermilab.

Proposed N&S ES&H Standards

The proposed List of Fermilab Necessary & Sufficient (N&S) ES&H Standards is based on a comprehensive final set of hazard issues that were considered by the Identification Team. The Team has documented its analysis of these issues in "Fermilab Identification Team Documentation" (FITD) reports which describe, for each hazard issue considered, the nature of the N&S standards chosen (necessary, external sufficient, or internal sufficient), the extent to which they are both necessary and sufficient, and the impact of implementing them.

The attached table, "Rolled-up Standards List", contains the necessary, external sufficient, and internal sufficient standards selected by Fermilab's Identification Team. This is the list which is proposed for inclusion in the DOE-URA Contract. However, it must be made clear, if these are incorporated into the URA/DOE contract, that only the applicable and enforceable parts of these standards are to be implemented. This needs to be done because in order to preserve sufficiency of the set, portions of citations were included that are not applicable to Fermilab operations and/or not enforceable (i.e., guidance). Rather than attempt an explicit and precise analysis of all necessary standard citations to remove each and every part that is not applicable, broad and inclusive citations were made and thus must be qualified by the phrase "applicable and enforceable parts thereof". The Team also understands that there may be unforeseen instances where the application of these standards can present significant barriers to implementation. In such cases Fermilab should notify the Batavia Area Office and work out an "equivalency" arrangement.

Are the Proposed Standards "Necessary"?

The following elements of the Identification Team process provide confidence that the standards included in the proposed N&S set are necessary:

1. Where a necessary standard was cited by the ID Team, that requirement is included in the N&S List. Necessary standards are deemed to include those to which Fermilab is legally required to comply, as well as those which would be legally-applicable if Fermilab were a private sector employer. Although there are hazard issues for which non-value added aspects of necessary standards are identified in

Part 4 of the FITD analysis reports, the cited standards are still considered part of the N&S List.

2. Other external and internal standards are included in the N&S List where, in the opinion of the Identification Team, often with the advice of Subject Matter Experts (SMEs), they are required to achieve a "sufficient" level of ES&H risk (i.e., that is consistent with the Laboratory management's expectations of ES&H performance). The basis for this conclusion is documented in Part 12 of each FITD analysis report.
3. Laboratory management decisions can result in additional standards to be required that otherwise would not apply. (For example, the decision to locate a Fire Station on site instead of relying on local fire fighting capabilities makes Fermilab subject to fire station standards.) Those standards whose inclusion is triggered by such Fermilab management decisions were also identified, and included in the N&S List.

It is the consensus of the ID Team that the List of Standards presented in the attached table is a list of necessary standards.

Are the Proposed Standards "Sufficient"?

The following elements of the Identification Team process provide confidence that the proposed set of N&S Standards is sufficient:

1. It was based on an initial list of hazard issues identified by the line managers at the Laboratory, which was subsequently validated and supplemented by the Identification Team and SMEs.
2. Each hazard issue was reviewed by one or more Identification Team "Focus Groups" (six sub-groups of the Identification Team, which were charged with identification of ES&H standards in six topic areas -- fire protection, radiation protection, environmental protection, occupational safety & health, emergency response, and management & oversight issues), in consultation with SMEs, through a deliberative process represented by the fourteen parts of the FITD analysis reports.
3. Finally, the full Identification Team reviewed and discussed each functional area focusing on any complex hazard issues.

It is the consensus of the ID Team that the List of Standards presented in the attached table is a sufficient set of standards.

Recommendation

The Identification Team believes that adoption of this set of standards, along with appropriate implementation, is necessary and sufficient for Fermilab to achieve a level of ES&H performance consistent with Fermilab management's goals; that is, adequate protection of people and the environment at the lowest cost.

In conclusion, the Identification Team considers the "N&S List of Standards" presented in the attached table to be a Necessary and Sufficient Set of ES&H Standards for Fermilab, and recommends its approval.

Implementation Considerations

In order for the Laboratory to meet the "sufficient" criteria in the future, the following considerations must be addressed. Sometimes more than one acceptable approach to satisfying a particular ES&H standard may exist. If the Laboratory wishes to conduct an activity in a manner which is not in strict conformance with the N&S Set but offers equivalent protection, determination of the Contracting Officer will be necessary. If the Laboratory wishes to make a minor change, not affecting the level of protection, to an internal standard called out in the N&S set it will do so. If the Laboratory wishes to make a significant change to an internal standard called out in the N&S set, one affecting the level of protection, it will consult the Contracting Officer prior to the change.

In those situations where the Laboratory determines that a particular standard (or part of a standard) is not appropriate or not applicable, the Laboratory Director, with the advice of the Laboratory's Senior Safety Officer, will decide whether to formally request an exemption. The Laboratory will work with the Contracting Officer if any exemption from the N&S set is needed. The Director will transmit any exemption request to the Contracting Officer to forward, as appropriate, to the regulatory unit which has jurisdiction.

Team Comments on Management Systems

The Identification Team was asked to address Conduct of Operations, Quality Assurance, Self-Assessment, and Maintenance Management. The Team agreed that, because of the burdensome nature of the current orders in these areas, these issues need to be addressed in a process such as the N&S Process. The Team discussed these issues at length.

However, the Team did not reach consensus. The Team Leader offers this analysis. These subjects are considered as ES&H issues by some parts of DOE and as management issues in other parts of DOE--similarly, some DOE Laboratories treat these as management issues and some as ES&H issues. Clearly, these issues are management issues with significant ES&H impacts. It is apparent from the Team discussions that, as management issues, these would be resolved within each of the represented Laboratories in ways appropriate for their management styles. These issues do not easily lend themselves to standardization--"one-size-fits-all". It is suggested that the best way to resolve these issues is to let the management of the Agreement Parties find solutions with which they are comfortable. The Team Leader strongly suggests, as provided in the Pilot Charter, that the Convened Group, as representatives of the management of the Agreement Parties, address these important subjects.

Boundary Issue: Property Loss/Program Interruption due to Fire

The bottoms-up approach to worker safety and public protection utilized in this Pilot N&S Closure Process did not draw out the issue of property protection or program interruption due to fire. This issue has historically been integrated into an overall fire protection program, as formulated by DOE Order 5480.7A, which implements, in an ill-defined manner, the insurance industry methodology for Highly Protected Risk (HPR). The choice to implement a system to control property loss and program (business) interruption is a business management decision primarily based on financial considerations. It is the recommendation of the Identification Team that this issue be addressed through an independent N&S process. The process to address this issue would vary significantly from the extant Pilot in that the primary effort would be to develop a site-specific set of criteria and then to reach consensus on both the criteria and the application of those criteria to each facility or structure on a site-wide basis. Also included in the process should be the assignment of property loss liability for each of the stakeholders - URA, BAO, and ER. Lastly, it is envisioned that the loss control criteria would allow for a new facility classification of "conventional/commercial facility" for which the application of the local building code and NFPA standards is sufficient, be based on Maximum Credible Loss (instead of Maximum Possible Loss), and provide for the graded application of protective measures consistent with the mission.

Discussion of the N&S Process and Lessons Learned

The principal conclusion of the ID Team is that the N&S Process works well and as designed. The sequence of steps for the N&S Closure Process (prescribed by the DOE Standards Program) in the Charter for the Fermilab N&S Process and in the Charge to the Fermilab ID Team was faithfully followed. It was found to be an entirely satisfactory mechanism for getting the work done.

An important comment, though, is that one should realize that the role of the Process Leader is a critical and exacting one. The Process Leader's effective coordination of a complicated mix of working and advisory groups (the Convened Group, Extended Convened Group, Steering Committee, ID Team, Focus Groups, and Focus Group Leaders) is vital to the successful implementation of the N&S Process.

The following is a collection of assorted "lessons learned" from the implementation of the N&S Pilot Process at Fermilab; it is hoped that these remarks could be of value to organizations which are planning their own N&S Process in the future:

- Time and Hard Work: A successful N&S Process requires a lot of hard work by highly qualified and highly motivated people. In particular, the ID Team phase of the work required significantly more time and effort than had been anticipated by the Process Leader.
- Careful Organization: Careful organization of each step of the process, including faithful implementation of all of the prescribed formalities of the process, is very important. In the Fermilab Pilot Process, this organizational effort helped to prevent misunderstandings and contributed to assuring continued buy-in by all interested parties as the ID Team's work progressed. The efforts of the Process Leader to assure that all interested parties were kept informed about the progress of the process were most worthwhile.
- Facilitator: The participation of management consulting firm in the Fermilab N&S Process was helpful, especially in its role as a process facilitator at the outset of the ID Team's initial two week period of concentrated work in mid-May. The facilitator introduced several concepts (the use of flip charts, groundrules, specific goals, pre-determined breaks, role playing- devil's advocate, etc.) that proved to be very useful in keeping the Team and Focus Groups focused on the issues, the process and the final objective.

- Standards vs. Implementation Plans: One must keep in mind the differences between a standard and an implementation plan. Standards are more universal. Implementation plans are the site-specific methods used to ensure that one is in compliance with the standards. One does not want to adopt an implementation plan as a standard.
- OSH Issues: The scope of the work of the Occupational Safety and Health (OSH) Focus Group was too broad. Over 100 of the ES&H hazard issues identified by the workers at Fermilab were in the OSH area. The assessment of these issues by at least two separate Focus Groups would probably have been a more effective arrangement.
- Boundary Conditions: Thoughtful consideration by the Process Leader, throughout the duration of the ID Team Process, of "boundary conditions" is important. It is not always clear what is an ES&H issue or if one should include a closely related topic associated with a particular ES&H issue. Examples of this are property loss prevention in the fire safety area, or safeguards & security considerations in the emergency response area.

**FERMILAB N/S STANDARDS PILOT
ROLLED UP STANDARDS LIST
DRAFT 7/12/95**

Standards

	Necessary	External sufficient	Internal sufficient	Emergency management	Environmental protection	Fire protection	Management & oversight	Occupational safety	Radiation protection	Transportation safety
10 CFR 1021 (DOE NEPA rules)	X				X					
10 CFR 1022 (Compliance with Floodplain/Wetlands environmental review requirements)	X				X					
10 CFR 1046 Subpt. B, App A, Chpt X, Paragraphs H through I inclusive. (Physical protection of security interests, protective force personnel)	X			X						
10 CFR 835 (Occupational radiation protection - applicable and enforceable portions)	X								X	
10 CFR 860 (Trespass to land owned & leased by the U.S. government.)	X			X						
100 IAC (Fire prevention and safety)	X					X				
120 IAC (Boiler and pressure vessels)	X					X				
14 CFR 135 (Air taxi operators and commerical operators)	X							X		
14 CFR 830 (Notification and reporting...accidents and incidents...)	X									X
14 CFR 91 (General operating and flight rules)	X									X
140 IAC (Policy and procedures manual for fire protection personnel)	X					X				
160 IAC (Storage, transportation, sale and use of gasoline and volatrilie oils: rules relating to general storage)	X					X				
17 IAC 525 and permit pursuant (Nuisance animal trapping permits)	X				X					
170 IAC (Storage, transportation, sale and use of petroleum and other regulated substances)	X					X				
18 U.S. Code Sections 841-848 (Use, or threat of use, of explosives; includes civil disorders.)	X			X						
180 IAC (Storage, transportaiton, sale and use of volatile oils)	X					X				

[illegible]

50 CFR 17 (Endangered species rules)	X			X				
71 IAC (Illinois accessibility code, Subparts C-F)	X			X				
77 IAC 830 (Structural pest control code)	X			X				
77 IAC 890 (Plumbing code)	X			X				
77 IAC 900 (Drinking water systems requirements)	X			X				
77 IAC 920 (Water well construction code)	X			X				
77 IAC 925 (Well pump installation)	X			X				
92 IAC 700 and all permits pursuant (Construction in water course permit application)	X			X				
92 IAC 704 and all permits pursuant (Regulation of public waters)	X			X				
92 IAC 708 and all permits pursuant (Floodway construction permit application)	X			X				
ACGIH TLV for cold stress	X						X	
ACGIH TLV for hand-arm segmental vibration	X						X	
ACGIH TLV for heat stress	X						X	
ACGIH TLV for radiofrequency/microwave radiation	X						X	
ACGIH TLV for static magnetic fields	X						X	
ACGIH TLV for ultraviolet radiation	X						X	
ANSI B11 series (Metalworking - applicable portions)	X						X	
ANSI B15.1 (Power transmission apparatus)	X						X	
ANSI O1.1 (Woodworking machinery)	X						X	
ANSI Z136.1 (Lasers)	X						X	
ANSI/ASHRAE 15 (Mechanical refrigeration)	X						X	
ANSI/ASME B30.10 (Hooks)	X						X	
ANSI/ASME B30.2 (Overhead and gantry cranes)	X						X	
ANSI/ASME B30.20 (Below the hook lifting devices)	X						X	
ANSI/ASME B30.5 (Mobile and locomotive truck cranes)	X						X	
ANSI/ASME B30.9 (Slings)	X						X	
ANSI/ASME B31.1 (Power piping)	X						X	
ANSI/ASME B31.3 (Chemical plant and petroleum refinery piping)	X						X	

ANSI/ASME B31.5 (Refrigeration piping)		X					X		
ANSI/ASME B31.8 (Gas transmission and piping systems)		X					X		
Archaeological and Historic Preservation Act of 1974	X				X				
Archaeological Resources Protection Act of 1979 [amended]	X				X				
ASME Pressure Vessel Code - Section VIII		X					X		
Atomic Energy Act	X							X	
Batavia Code of Regulations, City Ordinance, Section 8-3-10-3	X				X				
BOCA Fire Prevention Code		X				X			
BOCA National Building Code		X				X			
CERCLA/SARA 42 USC 6901 et seq.	X				X				
City Code of Warrenville, IL Title 7, Chapter 4, sewer/sewerage ordinance	X				X				
Clean Air Act Amendments 1990, 42 USC 7401 et seq. and Illinois State Implementation Plan 40 CFR 52 Subpart O	X				X				
Clean Water Act, 33 USC 1251 et seq.	X				X				
DOE Order 5400.5 Derived Concentration Guide Table and dose limits to the public (Chapter 2, section 1; Chapter 3)		X			X				
DuPage County Health Department Private Water Supply Ordinance (OH-0002-90, Ch.34, DuPage County Code)	X				X				
E.O. 10988 (Floodplain management)	X				X				
E.O. 10990 (Protection of wetlands)	X				X				
E.O. 12356 (National security information - security education)	X			X					
E.O. 12580 (Implementation of superfund)	X				X				
E.O. 12843 (Procurement of ozone-depleting substances)	X				X				
E.O. 12856 (Federal compliance with EPCRA and PP)	X				X				
E.O. 12873 (Recycling)	X				X				
Endangered Species Act 16 USC 1531 et seq.	X				X				
EPA Air Quality Stds.	X				X				
Federal Facility Compliance Act	X				X				
FEmP 35A (Personnel warning - severe weather)			X	X					
FEmP 35B (Shelters - severe weather)			X	X					

FEmP 41 (Warning signals - severe weather)			X	X						
Fermilab ES&H Section SQIP RPS.8 (Control and accountability of nuclear materials)			X						X	
FESHM 2010 (Planning and review of facilities and their operations)			X				X			
FESHM 3050 (Occurrence reporting)			X				X			
FESHM 5031 (Pressure vessels)			X					X		
FESHM 5031.1 (Pressure piping systems)			X					X		
FESHM 5032 (Cryogenic system review)			X					X		
FESHM 5032.1 (Liquid nitrogen dewar installation rules)			X					X		
FESHM 5032.2 (Guidelines For the Design, Fabrication, Testing, Installation, and Operation of LH2 Targets)			X					X		
FESHM 5032.3 (Transporting gases in building elevators)			X					X		
FESHM 5033 (Vacuum vessel safety)			X					X		
FESHM 5035 (Mechanical refrigeration systems)			X					X		
FESHM 5040 (Fermilab electrical safety program)			X					X		
FESHM 5041 (Electrical utilization equipment safety)			X					X		
FESHM 5042 (AC electrical power distribution safety)			X					X		
FESHM 5043 (Management and use of cable tray systems)			X			X				
FESHM 5044 (Protection against exposed electrical bus)			X					X		
FESHM 5046 (Low voltage, high current power distribution systems)			X			X				
FESHM 5064 (Oxygen deficiency hazards)			X					X		
FESHM 5084 (Ergonomic protection)			X					X		
FESHM 6020.3 (Installation of flammable gas lines in or near cable trays)			X			X				
FESHM 9020 (Hazardous materials transportation - packaging)			X							X
FIFRA (7 USC 136 et seq.)	X				X					
FRCM Article 349 (Controls for radioactive liquids and gases typically found at Fermilab)			X						X	
FRCM Article 365 (Radiation generating devices)			X						X	
FRCM Article 411 (Radioactive material identification, storage and control - requirements)			X						X	

FRCM Chapter 4 Part 3 (Radioactive source controls)			X						X
Handbook for Sampling & Sample Preservation of Water and Wastewater, EPA-600/4-82-029		X			X				
Illinois Chemical Safety Act (as ammended by P.A. 85-1325, effective August 31, 1988)	X			X					
Illinois Compiled Statutes (ICS) Chapter 625 (State vehicle code)	X								X
Illinois Department of Public Health, DuPage County Dept. Public Health. CDC December 7,1990		X						X	
Illinois Endangered Species Protection Act, IRS 1991, Ch. 8, par. 331 et seq.	X			X					
Illinois Ground Water Protection Act, IRS 1989 Chapter 111 1/2	X			X					
Illinois Health and Safety Act	X				X				
Illinois Pesticide Act, IRS Ch. 5, para. 801 et seq.; 45 IL. CS 60-1	X			X					
Illinois Public Act 84-852, Illinois Chemical Safety Act	X				X				
Kane County Health Department Ordinance 91-101 Water Well Code	X			X					
National Fire Protection Association National Fire Codes (NFPA Standards - applicable portions)		X		X	X				
National Historic Preservation Act of 1966 [amended]	X			X					
Native American Graves Protection and Repatriation Act of 1990	X			X					
NEPA 42 USC 4321 et seq.	X			X					
OSH Act, paragraph 5(a)(1) (General duty clause)	X							X	
Privacy Act of 1974	X								X
RCRA Part B Permit (Illinois Log #131), including Emergency Contingency plan	X			X					
RCRA, 42 USC 6901 et seq.	X			X					
Recommended Standards for Water Works, Great Lakes Upper Mississippi R. Bd. of State Public Health & Environmental Managers (1992)		X		X					
Safe Drinking Water Act, 42 USC Section 300f.	X			X					
SDWA, 42 USC 300f et seq.	X			X					
SFAR 62 (Suspension of certain aircraft operations from the transponder...)	X								X

Standard Methods for the Examination of Water and Wastewater, 18th Ed., APHA (1992)	X			X				
Standards and Specifications for Soil Erosion and Sediment Control, 10/87, IEPA 87-102	X			X				
Structural Pesticide Act, IRS Ch. 111 1/2, para. 2201 - 2225	X			X				
Title 5 U.S.Code 4103 (Training - for security personnel)	X			X				
TSCA, 15 USC 2601 et seq.	X			X				
UL Listing	X			X				
Uniform Federal Accessibility Standards, Chapter 4, Accessible Elements and Spaces: Scope and Technical Requirements	X			X				
WHC-EP-0063 Rev (or equivalent for other states that might accept FNAL wastes)	X							X

Report on the Fermilab Pilot N&S Closure Process

Participants in Confirmation

James Boyce, Identification Team
Jon Cooper, Identification Team
Don Cossairt, Identification Team
Larry Coulson, Process Leader
Michael Flannigan, Subject Matter Expert for CH
Dave Gassman, Subject Matter Expert (Legal)
Dave Goodwin, Convened Group
David Gordon, Identification Team
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Nancy Grossman, Identification Team
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Rod Walton, Identification Team
Bob Wynveen, Confirmation Panel

Necessary and Sufficient Set Approval Documents



Fermilab

Director's Office

July 13, 1995

To: Convened Group Members

From: Larry Coulson, Process Leader

Subject: Confirmation and Approval of the N&S Set

This memo documents the confirmation of the ES&H N&S SET contained in the Fermilab Pilot Necessary and Sufficient Identification Team Document, signed and submitted to the Convened Group on July 12, 1995 (Attachment 1), which was challenged at our meeting on July 12, 1995. In accordance with The Department of Energy Closure Process for Necessary and Sufficient Sets of Standards (February 24, 1995), the Convened Group verified:

- The information available to and used by the Identification Team was found satisfactory.
- The Convened Group and the Peer Review Panel confirmed that the set of standards is necessary and sufficient to satisfy the performance expectations and objectives of the work.
- Implementation of the set of standards should be feasible.

Three issue sheets were collected during the confirmation process. All three have been resolved to the satisfaction of those who raised the issue. I am maintaining documentation of the issues and their satisfactory resolution. They have resulted in some minor modification to the SET. A revised, and final SET is attached (Attachment 2).

The two issues discussed in the Team report have also been resolved as follows:

1. Property protection: The contract will continue to use DOE Order 5480.7 for property protection purposes only. The Convened Group will apply the N&S process at a later date to the property protection issue.
2. Management Systems: The Convened Group decided to remove the referenced Management Systems orders and replace them with special requirements in the contract. The DOE/URA contract modification will require that FNAL continue to maintain management systems that ensure that the agreed-upon standards are implemented.

The Identification Team followed all applicable protocols and documentation requirements, therefore, I request that you indicate approval to proceed with this process by recommending to the Agreement Parties that they approve the N&S SET as attached to this memo.

_____	Date _____
Ray Stefanski	
_____	Date _____
Dave Goodwin	
_____	Date _____
Andy Mravca	



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Director's Office

July 14, 1995

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Washington, D.C. 20036

Dr. John R. O'Fallon, Director
High Energy Physics Division, U.S. DOE
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Germantown, MD 20874

Mr. Andrew E. Mravca, Manager
Batavia Area Office, U.S. DOE
P.O. Box 2000
Batavia, IL 60510

Dear Dr. Bernthal, Dr. O'Fallon, and Mr. Mravca:

Subject: Fermilab Pilot on the Closure Process--Necessary and Sufficient ES&H
Standards Set Approval

Attached is documentation of the successful conclusion of the Fermilab Pilot for the Department of Energy Closure Process for Necessary and Sufficient Sets of Standards. The pilot has successfully produced a confirmed set of ES&H standards which fully meets the requirements of the process. Therefore, we recommend that you indicate approval of the attached set by signing below.

Responsible Organization -

Fred Bernthal, President
Universities Research Association

Date

Resource Authority -

John R. O'Fallon, Director
High Energy Physics Division
Office of Energy Research

Date

Customer Organization -

Andrew Mravca, Manager
DOE Batavia Area Office

Date

Yours truly,

Larry Coulson, Process Leader for the

Convened Group: Larry Coulson
Ray Stefanski
Dave Goodwin
Andy Mravca

**Contract Modification Documents
July 14, 1995**

Modification No. M201
Supplemental Agreement to
Contract No. DE-AC02-76CH03000

THIS SUPPLEMENTAL AGREEMENT is effective the 14th day of July, 1995, between the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), acting through the U.S. DEPARTMENT OF ENERGY (hereinafter referred to as "DOE"), and the UNIVERSITIES RESEARCH ASSOCIATION, INC. (hereinafter referred to as the "Association" or "Contractor"), a corporation organized and existing pursuant to the District of Columbia Non-Profit Corporation Act.

RECITALS

The Parties have conducted a Pilot of the Department of Energy's "Closure Process for Necessary & Sufficient Sets of Standards" (draft 2/24/95). The result of this pilot is a set of standards (the Set) which the Parties agree will provide an adequate level of protection of the environment, and of the health and safety of workers and the public, for activities under the contract.

The Set has been approved by the Agreement Parties in accordance with the "Charter for the Department of Energy /Fermilab Standards Closure Process", dated 3/31/95. The Parties have agreed to modify the contract to incorporate the Set, to replace existing DOE environmental protection, safety and health (ES&H) Orders. The modification will revise and/or delete certain articles of this contract, and add two Appendices: Appendix H which contains the Set of ES&H Standards applicable to Fermilab, and Appendix I, which contains a list of those DOE Orders which are currently applicable to Fermilab, modified to reflect agreement on the Set.

AGREEMENT

NOW, THEREFORE, the parties hereto mutually agree that Contract No. DE-AC02-76CH03000, as amended, is hereby further amended as follows:

1. Article 27. SAFETY AND HEALTH is deleted and a new Article 27 is added as follows:

**"ARTICLE 27. ENVIRONMENTAL PROTECTION, SAFETY AND HEALTH
(SPECIAL)**

- (a) The Contractor shall take all reasonable precautions in the performance of the work under this contract to protect the environment, the safety and health of employees, and the safety and health of members of the public.
- (b) The Contractor shall:
 - (1) Comply with the environmental protection, safety and health standards identified in the Necessary and Sufficient Set ('the Set') contained in Appendix H to this contract, initially identified and approved in accordance with the 'Charter for the Department of Energy/Fermilab Standards Closure Process' ("Charter") dated

Modification No. M201
Supplemental Agreement to
Contract No. DE-AC02-76CH03000
Page No. 2

3/31/95, including Attachment A thereto: draft 'Department of Energy Closure Process for Necessary and Sufficient Sets of Standards,' dated 2/24/95). The Set is in lieu of DOE ES&H directives which otherwise would be applicable to performance of this contract under Article 105. DOE ORDERS.

- (2) Identify and inform the Contracting Officer, in writing, of any inconsistencies among these standards which would affect or preclude the Contractor's ability to perform its work, and bring such inconsistencies to the attention of the Contracting Officer;
 - (3) Continue to maintain management systems that ensure that the agreed-upon standards are implemented.
 - (4) Implement internal environmental protection and safety and health performance evaluation and corrective action systems to provide Laboratory management with a continuing assessment of the adequacy and implementation of these management systems and a mechanism for assuring that deficiencies are corrected. The results of such evaluations shall be made available to DOE.
- (c) The Parties shall endeavor to keep apprised of changes to standards in the Set. Subject to paragraphs (b)(2) and (f) of this Article, changes to any standard in the Set shall be addressed as follows:
- (1) If the standard is a requirement applicable by law, the changed standard shall supersede the standard in the Set and become the new standard, effective immediately.
 - (2) If the standard is not required by law, the Contractor may substitute the changed standard, including a modification of an internal standard, with notice to the Contracting Officer if the change does not affect the level of protection. If the change in the standard does affect the level of protection, the change requires the approval of the Contracting Officer.
 - (3) The Contracting Officer may direct (i) substitution of a changed standard or (ii) modification of an internal standard, unless, within 30 days from receipt of notification of the change from the Contracting Officer, the Contractor submits the matter to the Agreement Parties for a decision. If the Agreement Parties determine that the modified standard is necessary, the Contractor shall take all appropriate measures to comply with the change in the standard.

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- (d) The Parties shall review and revalidate the Set periodically. The Necessary and Sufficient closure process may be re-initiated by any Agreement Party upon a determination that the existing set is no longer appropriate due to changes in mission, activity, degree of hazard, performance expectation, or knowledge. Approval of any revised Set shall be by the Agreement Parties, and Appendix H will be revised accordingly (whether or not by formal modification to this contract).
- (e) The Contractor and Contracting Officer shall identify and, if appropriate, agree to, any changes to contract terms and conditions, including cost and schedule, associated with a change to the Set or to a standard in the Set.
- (f) The Contractor may at any time seek an exception, exemption, waiver, or variance from, or propose an equivalent alternative to, all or part of any standard in the Set, and with respect to all or part of the activities under this contract, by submitting a request to the Contracting Officer. The Contracting Officer shall be responsible for taking any necessary and appropriate action to seek relief from any standard which is required by law.
- (g) In the event that the Contractor determines it is not in compliance with, or cannot comply with, any standard in the Set, the Contractor shall notify, in writing, the Contracting Officer of such actual or anticipated noncompliance and shall propose the corrective action to be taken. After receipt of authorization from the Contracting Officer, the Contractor shall, within a reasonable time agreed upon by the parties, take the agreed upon corrective action.
- (h) The Contractor shall include in all of its subcontracts involving performance of work at the site, provisions requiring subcontractors to comply with the Contractor's environment, safety and health standards. However, such provisions in the subcontracts shall not relieve the Contractor of its obligation to assure compliance with the provisions of this clause for all aspects of the work.
- (i) If at any time during the performance of the contract work, the Contractor's acts or failure to act may cause substantial harm or an imminent danger to public or worker safety or health, or to the environment, or the Contractor fails to take the corrective action approved in accordance with paragraph (g) above, the Contracting Officer may, without prejudice to any other legal or contractual rights of DOE, issue an order stopping all or any part of the work; thereafter, a start order for resumption of the work may be

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issued at the discretion of the Contracting Officer. The Contractor shall make no claim for an extension of time or adjustment of its management allowance or damages by reason of, or in connection with, such work stoppage.

- (j) For purposes of this Article, the term 'Agreement Parties' means the President, Universities Research Association, Inc.; the Director, High Energy Physics Division, Office of Energy Research DOE; and the Manager, DOE Batavia Area Office."
- 2. Article 29. PRESERVATION OF INDIVIDUAL OCCUPATIONAL RADIATION EXPOSURE RECORDS is deleted in its entirety.
- 3. Article 44. PERMITS OR LICENSES is revised in its entirety to read as follows:
"ARTICLE 44. DEAR 970.5204-29 PERMITS OR LICENSES (DEVIATION)
 - (a) In addition to its obligations under Article 27. ENVIRONMENTAL PROTECTION, SAFETY, AND HEALTH, and Article 105. DOE ORDERS, the Contractor shall, unless otherwise directed by the Contracting Officer, abide by all applicable laws, codes, ordinances and regulations of the United States, states or territories, municipalities, or political subdivisions which are applicable to the work under this contract.
 - (b) The Contractor's obligations include, but are not limited to, the identification of required permits and licenses, the compilation of information and data required for applications for permits and licenses, and the provision of any supplemental information required by law, code, ordinance, or regulation as requested by the regulatory authority involved. The Contracting Officer shall promptly inform the Contractor of any required permit or license of which DOE is aware or becomes aware.
 - (c) The Parties commit to full cooperation with regard to acquiring any necessary permits or licenses required by environmental laws, codes, ordinances, and regulations of the United States, states or territories, municipalities or other political subdivisions, and which are applicable to the performance of work under this contract. It is recognized that certain environmental permits will be obtained jointly and others will be obtained by either party in its individual capacity.
 - (d) The Contractor, unless otherwise directed by the Contracting Officer, shall procure all necessary non-environmental permits or licenses."
- 4. Article 94. ENVIRONMENTAL PROTECTION, is deleted in its entirety.

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5. Article 105. DOE ORDERS is revised to read as follows:

"ARTICLE 105. DOE ORDERS (SPECIAL)

Appendix I is a list of all DOE Orders which are applicable to this contract, as of July 14, 1995. Any Order distributed prior to this date, which is not contained in the list or is not otherwise directly incorporated into the specific terms of this contract shall be deemed inapplicable.

The Association understands that, from time to time, the DOE will issue additional or revised DOE Orders that are intended to apply certain DOE policies or procedures to management and operating contracts. Normally, such Orders or revisions are issued initially in draft form for comment by DOE field offices, and in such instances, the Contracting Officer will use his best efforts to elicit the Association's comment(s) on the draft. When a final DOE Order is issued, the Contracting Officer shall transmit to the Association a copy of the Order along with a written determination that the Order should be applied under this contract. The Association will be given an opportunity to state reasons why the Order either should not be applied, or whether it should be modified in its application under this contract.

If thereafter directed by the Contracting Officer to follow the Order, said direction shall be deemed a modification of Appendix I. The Association agrees to use its best efforts to implement the Order to the extent that the Order is not inconsistent with provisions of this contract. The Association shall promptly provide the Contracting Officer with a compliance action plan, including costs and schedule."

6. Appendices H and I, attached hereto and made a part hereof, are hereby incorporated into this Contract.

IN WITNESS WHEREOF, the parties hereby execute this document.

UNITED STATES OF AMERICA UNIVERSITIES RESEARCH ASSOCIATION, INC.

By: _____

By: _____

(Title)

(Title)

(Date)

(Date)

FERMILAB N/S SET OF ES&H STANDARDS JULY 14, 1995

10 CFR 1021 (DOE NEPA rules)
10 CFR 1022 (Compliance with Floodplain/Wetlands environmental review requirements)
10 CFR 1046 Subpt. B, App A, Chpt X, Paragraphs H through I inclusive. (Physical protection of security interests, protective force personnel)
10 CFR 835 (Occupational radiation protection - applicable and enforceable portions)
10 CFR 860 (Trespass to land owned & leased by the U.S. government.)
100 IAC (Fire prevention and safety)
120 IAC (Boiler and pressure vessels)
14 CFR 135 (Air taxi operators and commerical operators)
14 CFR 830 (Notification and reporting...accidents and incidents...)
14 CFR 91 (General operating and flight rules)
140 IAC (Policy and procedures manual for fire protection personnel)
160 IAC (Storage, transportation, sale and use of gasoline and volatrilie oils: rules relating to general storage)
17 IAC 525 and permit pursuant (Nuisance animal trapping permits)
170 IAC (Storage, transportation, sale and use of petroleum and other regulated substances)
18 U.S. Code Sections 841-848 (Use, or threat of use, of explosives; includes civil disorders.)
180 IAC (Storage, transportaiton, sale and use of volatile oils
28 CFR 36 Sections 4.1.3 (9) and 302(b)(2) (Americans with Disabilities Act - accomodations and accessiblity)
29 CFR 1903.13 (Imminent danger)
29 CFR 1903.2 (Posting of notice...)
29 CFR 1904 (Recordkeeping and reporting occupational injuries and illnesses)
29 CFR 1910 (OSHA general industry standards - applicable and enforceable portions)
29 CFR 1926 (OSHA construction industry standards - applicable and enforceable portions)
29 CFR 1928 Subpart C (Roll-over protective structures - applicable and enforceable portions)
29 CFR 1928 Subpart D (Safety for agricultural equipment - applicable and enforceable portions)
29 CFR 1977.12 (Exercise of any right afforded by the Act)
29 CFR 1977.4 (Persons prohibited from discriminating)
29 IAC Chapter 1, Subchapter f (Emergency services, disasters, and civil defense /ESDA/ chemical safety)
33 CFR 320-323, 328-330 (Army corp of engineers wetlands regs)
35 IAC (State of IL environmental regs - applicable and enforceable portions)
36 CFR 60, 63, 65 (National historic landmark program)
36 CFR 78-79 (NHPA waiver and collection curation regs)
36 CFR 800 (Protection of historic and cultural properties)

40 CFR (Federal environmental regs - applicable and federally-enforceable portions)
41 IAC (Fire protection)
43 CFR 7 (Archaeological collections)
49 CFR 100-199 and references (Hazardous materials transportation - offsite)
49 CFR 173.24(e)(1-2) (Chemical compatibility for single packagings - onsite)
49 CFR 173.24(e)(4)(i-111) (Chemical compatibility for multiple packagings - onsite)
49 CFR 173.24a (a)(1) (Positioning of inner receptacles - onsite)
49 CFR 173.24a (a)(3-4) (Packing for inner receptacles - onsite)
49 CFR 177.848C (Segregation table for hazardous materials - onsite)
49 CFR 178.500L Subchapter C (Segregation table for hazardous materials - onsite)
49 CFR 383.23 (Commercial drivers license - offsite and onsite)
49 CFR 392.14 (Hazardous conditions; extreme caution - offsite and onsite)
49 CFR 393.95 (Emergency equipment on vehicles - offsite and onsite)
49 CFR 395.3 (Maximum driving and on-duty time - offsite and onsite)
49 CFR 397.11 (Fires - offsite and onsite)
49 CFR 397.13 (Smoking - offsite and onsite)
49 CFR 397.15 (Fueling - offsite and onsite)
50 CFR 17 (Endangered species rules)
71 IAC (Illinois accessibility code, Subparts C-F)
77 IAC 830 (Structural pest control code)
77 IAC 890 (Plumbing code)
77 IAC 900 (Drinking water systems requirements)
77 IAC 920 (Water well construction code)
77 IAC 925 (Well pump installation)
92 IAC 700 and all permits pursuant (Construction in water course permit application)
92 IAC 704 and all permits pursuant (Regulation of public waters)
92 IAC 708 and all permits pursuant (Floodway construction permit application)
ACGIH TLV for cold stress
ACGIH TLV for hand-arm segmental vibration
ACGIH TLV for heat stress
ACGIH TLV for radiofrequency/microwave radiation
ACGIH TLV for static magnetic fields
ACGIH TLV for ultraviolet radiation
ANSI B11 series (Metalworking - applicable portions)

ANSI B15.1 (Power transmission apparatus)
ANSI O1.1 (Woodworking machinery)
ANSI Z136.1 (Lasers)
ANSI/ASHRAE 15 (Mechanical refrigeration)
ANSI/ASME B30.10 (Hooks)
ANSI/ASME B30.2 (Overhead and gantry cranes)
ANSI/ASME B30.20 (Below the hook lifting devices)
ANSI/ASME B30.5 (Mobile and locomotive truck cranes)
ANSI/ASME B30.9 (Slings)
ANSI/ASME B31.1 (Power piping)
ANSI/ASME B31.3 (Chemical plant and petroleum refinery piping)
ANSI/ASME B31.5 (Refrigeration piping)
ANSI/ASME B31.8 (Gas transmission and piping systems)
Archaeological and Historic Preservation Act of 1974
Archaeological Resources Protection Act of 1979 [amended]
ASME Pressure Vessel Code - Section VIII
Atomic Energy Act
Batavia Code of Regulations, City Ordinance, Section 8-3-10-3
BOCA Fire Prevention Code
BOCA National Building Code
CERCLA/SARA 42 USC 6901 et seq.
City Code of Warrenville, IL Title 7, Chapter 4, sewer/sewerage ordinance
Clean Air Act Amendments 1990, 42 USC 7401 et seq. and Illinois State Implementation Plan 40 CFR 52 Subpart O
Clean Water Act, 33 USC 1251 et seq.
DOE Order 5400.5 Derived Concentration Guide Table and dose limits to the public (Chapter 2, section 1; Chapter 3)
DuPage County Health Department Private Water Supply Ordinance (OH-0002-90, Ch.34, DuPage County Code)
E.O. 10988 (Floodplain management)
E.O. 10990 (Protection of wetlands)
E.O. 12356 (National security information - security education)
E.O. 12580 (Implementation of superfund)
E.O. 12843 (Procurement of ozone-depleting substances)
E.O. 12856 (Federal compliance with EPCRA and PP)
E.O. 12873 (Recycling)

Endangered Species Act 16 USC 1531 et seq.
EPA Air Quality Stds.
Federal Facility Compliance Act
FEmP 35A (Personnel warning - severe weather)
FEmP 35B (Shelters - severe weather)
FEmP 41 (Warning signals - severe weather)
Fermilab ES&H Section SQIP RPS.8 (Control and accountability of nuclear materials)
FESHM 2010 (Planning and review of facilities and their operations)
FESHM 3050 (Occurrence reporting)
FESHM 5031 (Pressure vessels)
FESHM 5031.1 (Pressure piping systems)
FESHM 5032 (Cryogenic system review)
FESHM 5032.1 (Liquid nitrogen dewar installation rules)
FESHM 5032.2 (Guidelines For the Design, Fabrication, Testing, Installation, and Operation of LH2 Targets)
FESHM 5032.3 (Transporting gases in building elevators)
FESHM 5033 (Vacuum vessel safety)
FESHM 5035 (Mechanical refrigeration systems)
FESHM 5040 (Fermilab electrical safety program)
FESHM 5041 (Electrical utilization equipment safety)
FESHM 5042 (AC electrical power distribution safety)
FESHM 5043 (Management and use of cable tray systems)
FESHM 5044 (Protection against exposed electrical bus)
FESHM 5046 (Low voltage, high current power distribution systems)
FESHM 5064 (Oxygen deficiency hazards)
FESHM 5084 (Ergonomic protection)
FESHM 6020.3 (Installation of flammable gas lines in or near cable trays)
FIFRA (7 USC 136 et seq.)
FRCM Article 349 (Controls for radioactive liquids and gases typically found at Fermilab)
FRCM Article 365 (Radiation generating devices)
FRCM Article 411 (Radioactive material identification, storage and control - requirements)
FRCM Chapter 4 Part 3 (Radioactive source controls)
Handbook for Sampling & Sample Preservation of Water and Wastewater, EPA-600/4-82-029
Illinois Chemical Safety Act (as ammended by P.A. 85-1325, effective August 31, 1988)
Illinois Compiled Statutes (ICS) Chapter 625 (State vehicle code)

Illinois Department of Public Health, DuPage County Dept. Public Health. CDC December 7,1990
Illinois Endangered Species Protection Act, IRS 1991, Ch. 8, par. 331 et seq.
Illinois Ground Water Protection Act, IRS 1989 Chapter 111 1/2
Illinois Health and Safety Act
Illinois Pesticide Act, IRS Ch. 5, para. 801 et seq.; 45 IL. CS 60-1
Illinois Public Act 84-852, Illinois Chemical Safety Act
Kane County Health Department Ordinance 91-101 Water Well Code
National Fire Protection Association National Fire Codes (NFPA Standards - applicable portions)
National Historic Preservation Act of 1966 [amended]
Native American Graves Protection and Repatriation Act of 1990
NEPA 42 USC 4321 et seq.
OSH Act, paragraph 5(a)(1) (General duty clause)
Privacy Act of 1974
RCRA Part B Permit (Illinois Log #131), including Emergency Contingency plan
RCRA, 42 USC 6901 et seq.
Recommended Standards for Water Works, Great Lakes Upper Mississippi R. Bd. of State Public Health & Environmental Managers (1992)
Safe Drinking Water Act, 42 USC Section 300f.
SDWA, 42 USC 300f et seq.
SFAR 62 (Suspension of certain aircraft operations from the transponder...)
Standard Methods for the Examination of Water and Wastewater, 18th Ed., APHA (1992)
Standards and Specifications for Soil Erosion and Sediment Control, 10/87, IEPA 87-102
Structural Pesticide Act, IRS Ch. 111 1/2, para. 2201 - 2225
Title 5 U.S.Code 4103 (Training - for security personnel)
TSCA, 15 USC 2601 et seq.
UL Listing
Uniform Federal Accessibility Standards, Chapter 4, Accessible Elements and Spaces: Scope and Technical Requirements
WHC-EP-0063 Rev (or equivalent for other states that might accept FNAL wastes)
Rather than attempt a precise analysis of all necessary standard citations to exclude non-applicable parts, inclusive citations were made qualified by the phrase "applicable and enforceable parts thereof."
To the extent these standards apply to DOE and not the contractor, the contractor will assist DOE in complying with them.
This Set does not change any existing Federal, State or local enforcement authority.
All references contained herein shall be the version in effect on July 14,1995.

DOE ORDERS
AND SECRETARY OF ENERGY NOTICES (SENS)
APPLICABLE FOR IMPLEMENTATION
UNDER CONTRACT NO. DE-AC02-76CH03000

July 13, 1995

-- New Additions or Changes in Italics

ORDERS	DATES	TITLE
1000.3B	7/05/88	Internal Control Systems
1300.2A	5/19/92	Department of Energy Technical Standards Program
1300.3	8/23/90	Policy on the Protection of Human Subjects
1322.2C	10/22/91	Forms Management
1324.5B	1/12/95	Records Management Program
1330.1D	5/18/92	Computer Software Management
1332.1A Chg. 1	10/15/85 6/12/92	Uniform Reporting System
1340.1B	1/07/93	Management of Public Communications Publications & Scientific, Technical & Engineering Publications
1350.1 Chg. 1	10/28/81 3/26/84	Audiovisual and Exhibits Management
1360.1B	1/07/93	Acquisition and Management of Computing Resources
1360.2B	5/18/92	Unclassified Computer Security Program
1360.3C	10/19/92	Information Technology Standards
1360.6A	11/12/92	Automatic Data Processing Equipment/Data Systems
1360.8A	5/18/92	Analyses of Benefits and Costs for Information Technology Resource Initiatives
1430.1D	6/30/94	Scientific and Technical Information Management
1430.4A	5/18/92	Library Services
1450.3A Chg. 1	9/12/91 4/09/92	Call Control/ Verification Programs and Authorized Use of Government Telephone Systems

ORDERS	DATES	TITLE
1500.3 Chg. 4 Chg. 5 Chg. 6 Chg. 7	11/10/86 3/30/89 5/18/90 2/28/92 7/06/94	Foreign Travel Authorization
1800.1A Chg. 1	8/31/84 5/18/92	Privacy Act
2030.4B	5/18/92	Reporting Fraud, Waste, and Abuse to the Office of the Inspector General
2100.8A	1/27/93	Cost Accounting, Cost Recovery, & Interagency Sharing of Information Technology Facilities
2110.1A Chg. 2	7/14/88 5/18/92	Pricing of Departmental Materials & Services
2200.4 Chg. 1	3/31/88 6/08/92	Accounting Overview
2200.6A Chg. 1 Chg. 2	1/07/93 4/13/93 6/13/94	Financial Accounting
2200.7	5/02/88	Cost Accounting
2200.8B	6/08/92	Accounting Systems, Organizations, & Reporting
2200.9B Chg. 1 Chg. 2	6/08/92 11/12/92 1/12/93	Miscellaneous Accounting
2200.10A Chg. 1 Chg. 2 Chg. 3 Chg. 4 Chg. 5	8/09/89 2/27/90 10/17/90 1/15/92 6/08/92 3/10/93	Accounts, Codes, and Illustrative Entries
2300.1B	6/08/92	Audit Resolution and Followup
2320.1C	5/18/92	Cooperation with the Office of Inspector General
2320.2A Chg. 1 Chg. 2	7/19/88 8/28/89 3/28/90	Establishment of Departmental Position on Inspector General Reports

ORDERS	DATES	TITLE
3220.1A	5/14/92	Management of Contractor Personnel Policies and Programs
3220.2A	5/14/92	Equal Opportunity in Operating & Onsite Service Contractor Facilities
3220.4 Chg. 1	6/04/85 6/28/90	Contractor Personnel and Industrial Relations Reports
3220.6A	5/14/92	Federal Labor Standards
3830.1	8/23/82	Policies and Procedures for Pension Programs Under Operating & Onsite Service Contracts
3890.1	6/07/85	Contractor Insurance and Other Health Benefits Programs
4220.5	12/19/91	Dependent Care Programs for Department of Energy Management & Operating Contractors
4300.1C Chg. 1	6/28/92 6/13/94	Real Property Management
4300.2B Chg. 1 Chg. 2	7/16/91 7/29/91 2/07/92	Non-Department of Energy Funded Work (Work for Others)
4320.1B Chg. 1	1/7/91 3/26/92	Site Development Planning
4320.2A	2/10/94	Capital Asset Management Process
4330.2D	5/18/92	In-House Energy Management
4540.1C	6/08/92	Utility Acquisition and Management
4700.1 Chg. 1	3/06/87 6/02/92	*** Project Management System
4700.3 Chg. 1	9/16/91 11/16/92	General Plant Projects
5100.3	8/23/84	Field Budget Process
5100.4	10/31/84	Internal Review Budget Process
5100.5	7/21/83	Office of Management and Budget Process
5300.1C	6/12/92	Telecommunications

ORDERS	DATES	TITLE
5400.5 Chg. 1 Chg. 2	2/08/90 6/05/90 1/07/93	Radiation Protection of the Public and the Environment (Only Chapter 2, Section 1; and Chapter 3, as stated in the N & S set)
5480.7A	2/17/93	Fire Protection (For Property Protection Only)
5630.11B	8/02/94	Safeguards and Security Program
5630.12A	6/23/92	Safeguards and Security Inspection and Assessment Program
5630.14	11/16/88	Safeguards and Security Program Planning
5630.16A	6/03/93	Safeguards and Security Acceptance and Validation Testing Program
5631.5 Chg. 1	2/12/88 7/02/90	Violation of Laws, Losses, and Incidents of Security Concerns
5632.7A	4/13/94	Protective Force Program
5632.10	1/12/90	Safeguards and Security Equipment Standardization
5700.2D	6/12/92	Cost Estimating, Analysis, and Standardization
5700.7C	5/18/92	Work Authorization System
5800.1A	5/18/92	Research & Development Laboratory Technology Transfer Program
6430.1A	4/06/89	General Design Criteria

*** Reference Letter from Mravca to Chrisman dated June 3, 1993 granting exceptions to implementation of Orders. Orders to be appropriately applied by the contractor.

SECRETARY OF ENERGY NOTICES

SEN	DATE	TITLE
22	5/08/90	DOE Policy on Signatures of RCRA Permit Applications
25A	10/02/91	Strategic Planning Initiative
30A	12/07/92	Staying the Course for Technology Transfer at the Department of Energy

THE FERMILAB N&S PROCESS AND MANAGEMENT SYSTEMS

8/8/95

The DOE/URA contract was modified on July 14, 1995, as a result of the N&S Pilot. The contract modification replaced the existing list of applicable ES&H DOE Orders with a modified list of applicable orders and the "N&S" list of Standards. Questions have been asked why the new contract no longer contains the orders for Quality Assurance, Conduct of Operations, Self-Assessment, and Maintenance Management.

The Pilot was exercised in full faithful accord with The Department of Energy Closure Process for Necessary and Sufficient Sets of Standards. Process Element 4 of that document, after [7], states: "NOTE: No justification or documentation is required for applicable non-regulatory standards that are NOT selected (for example, DOE Orders, manuals, and technical standards, and industry consensus standards)."

The referenced orders are management orders which have historically been associated with the ES&H activities of laboratories. Enforcement, auditing for compliance, and corrective action plans are all linked to the DOE ES&H oversight machinery. These orders are also an important consideration because as management orders they impact the implementation of the N&S set.

The Identification Team of the Pilot was asked by the Convened Group to address these management systems and make recommendations to the Convened Group. However, the Team, could not reach consensus on the best management systems to use as "standards". Each member of the team had a view of management that reflected the management of their home institution. Management systems do not lend themselves to prescription, but must be tailored to fit each institution. Therefore, the Process Leader referred these issues back to the Convened Group--who as representatives of the agreement parties should decide upon appropriate management requirements. The Convened Group discussed these issues with the Identification Team and the Confirmation Panel. It was noted that QA for ES&H is addressed explicitly in many of the selected standards--e.g. CFR 835.102, ASME Pressure Vessel Code, and the Handbook for Sampling & Sample Preservation of Water and Wastewater (EPA-600/4-82-029). The conclusion of the Convened Group was unanimous--the referenced orders are not value-added, are not necessary, and therefore, should not be included in the contract. This is consistent with the Criteria for Departments

Standards Program, page 4, in the paragraph **Take Necessary and Sufficient Approach** :

Contractor management identifies a sufficient set of standards for performance of work and submits it to the Department for acceptance. Applicable requirements contained in Federal, state, and local laws and regulations must be included in the set. Other requirements are included as the result of mutual agreement that takes into account the particular circumstances. The result of the approach is the agreed-upon necessary and sufficient set of standards. This necessary and sufficient approach permits good judgment to be exercised at the appropriate decision level, increases effectiveness of work and reduces arbitrary imposition of requirements that add cost but no value.

Requirements are those standards that are mandatory. The URA contract with the Department of Energy contains requirements. Management standards are treated as non-mandatory, and are kept as internal standards. They are all contained in the Fermilab Quality Assurance Program Plan and the Fermilab Self-Assessment Program Plan. All of these will be held subordinate to the Criteria for the Department Standards Program until a better understanding of the implementation process is achieved. Thus conditions are avoided which limit flexibility in selecting the best method for implementing standards by declaring discretionary standards to be mandatory. This also avoids confusing and conflicting direction that would lead to maintenance of costly parallel methods of compliance.

Fermilab and the DOE-CH Fermi Group, formerly known as the Batavia Area Office, are the owners of the implementation plan for our standards. Ownership means responsibility for key decisions (such as reaching closure on risks and priorities) and accountability for actually accomplishing work consistent with the standards. Methods for implementing the program are developed at the organizational level (site, facility, or activity) appropriate for effective management.

Assurance of performance comes through contractor self assessments and Department and external oversight. The contractors and the Department monitor and verify that work is conducted in accordance with the agreed-upon set of standards. The standards based approach provides an effective means for measuring and monitoring performance to requirements.

What was done? The following clause was inserted into the contract:

- 1,b,(3). (Fermilab will) Continue to maintain management systems that ensure that the agreed-upon standards are implemented.

This requires:

1. Fermilab to maintain adequate management systems, and
2. The Fermi Group to audit our management systems.

What is being done? The Lab is maintaining its "prior-to-July 14" management systems and will continue to do so until modified in concert with the Fermi Group. These systems were written and approved by the Fermi Group, CH, and ER prior to the N&S process. It is intended that these systems stay in place, but evolve into systems which are fully value-added as determined by the agreement parties.